

AMENDMENTS IN THE CLAIMS

1. (currently amended) A method for determining a minimum amount of post production testing required on an integrated circuit device to achieve optimum reliability of said integrated circuit device, said method comprising:

detecting defective cells or active elements containing defective cells within said integrated circuit device;

determining counting a number of said defective cells or active elements containing defective cells; and

determining a minimum amount of post production testing required on said integrated circuit device to achieve a pre-determined measure of optimum reliability of said integrated circuit device, said determining based upon said number of defective cells or active elements containing defective cells (DEFECTS) compared against one or more preset, normalized numbers.

2. (original) The method of claim 1 wherein post production testing is stress testing.

3. (original) The method of claim 1 wherein active elements are memory modules.

4. (original) The method of claim 1 wherein said integrated circuit device comprises one or more activatable redundant elements, said method further comprising activating redundant elements to replace said defective cells or active elements containing defective cells.

5. (currently amended) The method of claim [[4]] 1, wherein post production testing is stress testing said determining comprises:

comparing said number against a first of the one or more preset normalized numbers; and
when said number is less than the first preset normalized number, assigning a minimum
amount of post production testing associated with the first preset normalized number.

6. (currently amended) The method of claim [[4]] 5, wherein active elements are memory modules when there are multiple preset normalized numbers, each corresponding to an
associated minimum amount of post production testing, said method further comprises:

determining a lowest preset normalized number below which said number falls; and
assigning the minimum amount of post production testing associated with the lowest
preset normalized number below which said number falls.

7. (currently amended) An apparatus for determining a minimum amount of post production testing required on an integrated circuit device to achieve optimum reliability of said integrated circuit device, said apparatus comprising:

one or more self test circuits within said integrated circuit device for detecting defective cells or active elements containing defective cells;

a counter coupled to each said self test circuit for incrementing a count for each said defective cell or active element containing defective cells; and

a control means coupled to said counter for determining a minimum amount of post production testing required on said integrated circuit device to achieve ~~optimum~~ a pre-determined measure of reliability of said integrated circuit device, said determining based upon said count of defective cells or active elements containing defective cells compared against one or more preset, normalized numbers.

8. The apparatus of claim 7 wherein post production testing is stress testing.

9. The apparatus of claim 7 wherein active elements are memory modules.

10. The apparatus of claim 7 further comprising one or more activatable redundant elements for replacing said active elements containing defective cells.

11. The apparatus of claim [[10]] 7, wherein ~~post production stress testing is stress testing~~ said control means for determining comprises:

means for comparing said number against a first of the one or more preset normalized numbers; and

when said number is less than the first preset normalized number, means for assigning a minimum amount of post production testing associated with the first preset normalized number.

12. The apparatus of claim [[10]] 11, wherein active elements are memory modules when there are multiple preset normalized numbers, each corresponding to an associated minimum amount of post production testing, said apparatus further comprises:

means for determining a lowest preset normalized number below which said number falls; and

means for assigning the minimum amount of post production testing associated with the lowest preset normalized number below which said number falls.

13. The apparatus of claim 7 further comprising:

each said counter coupled to a sequential said counter to shift counts from one counter to another;

an accumulator coupled to the last said counter and to the first said counter to accumulate a total count for all counters;

a control means coupled to said accumulator for determining a minimum amount of post production testing required on said integrated circuit device to achieve optimum a pre-determined measure of reliability of said integrated circuit device, said determining based upon said accumulated count.

14. The apparatus of claim [[13]] 7, wherein post production testing is stress testing said control means is a first control means, said apparatus further comprising a second control means for:

determining a physical location of each defect;

analyzing a proximity of a first defect relative to a second defect; and

evaluating a second amount of post production testing in an inverse portion to the relative proximity of the first defect to the second defect.

15. The apparatus of claim [[13]] 7, wherein: active elements are memory modules
said second control means further comprises means for determining the physical
locations based on a logical address of each defect; and
said apparatus further comprises means for determining a final amount of post production
testing based on both the second amount evaluated by the second control means and the amount
determined by the first control means.

16. A computer program product residing in a storage media for determining a minimum amount of post production testing required on an integrated circuit device to achieve optimum reliability of said integrated circuit device, said computer program product comprising instructions for:

intercepting a signal containing information about defective cells (defects) DEFECTS in said integrated circuit device;

analyzing said information to determine a number of said defects DEFECTS; and
determining a minimum amount of post production testing required on said integrated circuit device to achieve a predetermined measure of optimum reliability of said integrated circuit device, said determining based upon said number compared against one or more preset, normalized numbers.

17. The computer program product of claim 16 wherein post production testing is stress testing.

18. The computer program product of claim 16 wherein active elements are memory modules.

19. The computer program product of claim 16 further comprising the instructions of:

analyzing said information to determine the location of defects DEFECTS;
more accurately determining a minimum amount of post production testing required on said integrated circuit device to achieve optimum a predetermined measure of reliability of said integrated circuit device using said location.

20. The computer program product of claim [[19]] 16, wherein post production testing is stress testing said instructions for determining comprises instructions for:

comparing said number against a first of the one or more preset normalized numbers; and
when said number is less than the first preset normalized number, assigning a minimum
amount of post production testing associated with the first preset normalized number.

21. The computer program product of claim [[19]] 16, wherein when there are multiple preset normalized numbers, each corresponding to an associated minimum amount of post production testing, said instructions further comprises instructions for:

determining a lowest preset normalized number below which said number falls; and
assigning the minimum amount of post production testing associated with the lowest
preset normalized number below which said number falls.